

**TITLE****EMBEDDED SENSOR SYSTEM FOR  
TRACKING MOVING OBJECTS****Abstract**

A method and apparatus describing a device for tracking moving objects or persons are taught. The invention is an embedded system using a series of sensors such as light sensors along a passageway to determine some movement characteristics such as number, size, direction, speed and position of objects or people along the passageway. One embodiment of this invention is in fare gates for public transport systems. Another aspect of this invention is the algorithm that determines the movement characteristics using the overlaps or intersections of rising edge, on state, falling edge and off state of signals from the sensors to determine the movement characteristics of objects or humans. The simplicity and robustness of the algorithm allow implement of the invention with inexpensive programmable logical controllers without the need of control by expensive computers. This invention also avoids the attendant disadvantages of other systems using cameras, computer vision or mechanical sensors.

FIG. 12 accompanies the abstract.